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# CORRESPONDENCE

## Comments on "Some Interesting Aspects of a Subtropical Depression, May 18–28, 1958"

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In a recent article Clark and French [1] referred to forecast rules used at the District Forecast Office at Washington to forecast the movement of both tropical and extratropical cyclones. They briefly explained these rules as follows (see second column, p. 191, of their article): "When 12-hour pressure *rises* are in the path of a storm the Low will tend to turn to the left. Alternatively, when 12-hour pressure *falls* are in the path, the Low will tend

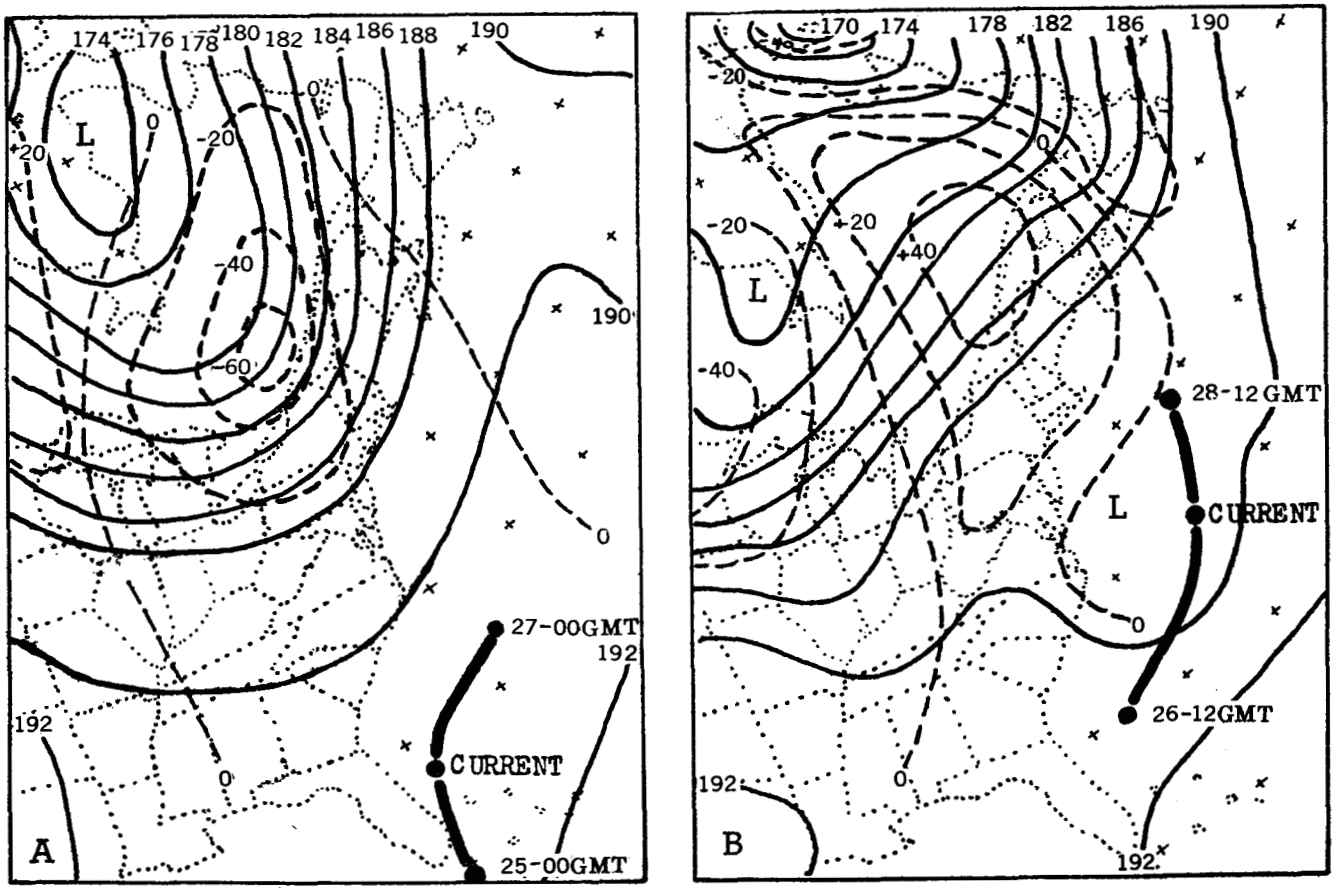


FIGURE 1.—500-mb. contours (solid) in hundreds of feet, and their 24-hour height changes (dashed) in tens of feet for (A) 0000 GMT, May 26, and (B) 0000 GMT May 27, 1958. Track of the subtropical depression is shown on each chart for the 24 hours before and after map time.

to run to the right." Actually these rules apply to 24-hour, 500-mb. height rises and falls and not to 12-hour surface pressure changes as stated in their article.

The rules they were discussing are stated in an unpublished manuscript by this writer [2]. These rules for forecasting the movement of low pressure centers are: When 24-hour height rises at 500-mb. are in the path of a Low, it will tend to turn to the left of the indicated steering. Alternatively, when 24-hour height falls are in the path of the Low, it will temporarily turn to the right of the indicated steering.

Surface pressure changes for 12-hour periods are plotted at the Washington District Forecast Office and used in many ways. To take the latest information into account, surface pressure changes are sometimes used to estimate 500-mb. height changes. The indicated thickness advection between sea level and the 500-mb. level must be subtracted from surface pressure changes to estimate height change at 500 mb.

The error in the first forecast issued by the District Forecast Office at 0315 EST, May 26, is attributed not to a failure of the rules but to some erroneous calculations in estimating changes at the 500-mb. level from late surface and thickness advection indications. The 500-mb. chart for 0000 GMT, May 26, (fig. 1A) indicates the Low should turn northeastward.

The 500-mb. charts with the contours and 24-hour, 500-mb. height changes for 0000 GMT, May 26, and 1200 GMT, May 27, are shown in figure 1. The reader might like to compare the observed movement of the Low, shown by the tracks in figure 1, with that suggested by the rules discussed above and illustrated in figure 12, page 196, of Clark and French's article. The caption of this figure should read: "Forecast rule using 24-hour, 500-mb. height changes."

The radius of curvature of the track in the upper left side of their illustration should be less than in the upper right side. The height changes should not be used independently of the steering indicated by contours. The deflection or acceleration of the low center depends upon the height changes and their relationship to the contours.

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